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EPO claims

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Patent claims

1. Drive arrangement for a preferably vertically
traversable slide (13), comprising a correspondingly
5 arranged stationary toothed rack (1), the associated
pinion of which can be operated by a drive motor (22),
provided on the slide and having a fail-safe brake (23)
at the non-drive end shield, and via a gear unit (21)
for the vertical movement of the slide (13), it being
10 possible for an additional slide-holding device to be
brought into engagement if required for protecting the
vertically traversable slide (13), and the additional
holding device being arranged as an additional brake
unit (20), having a brake housing (11) and brake rotor
15 (8 and/or 9), on the slide (13) and being designed for
the engagement of a separate pinion (2) with the
toothed rack (1), this pinion (2) sitting on a shaft
(3) and idling during the normal adjusting movements of
the slide (13), the brake unit (20) being actuatable
20 independently of the fail-safe brake (23) of the drive
motor (22), characterized in that the shaft (3) of the
pinion (2), which is directly in engagement with the
toothed rack (1), is at the same time that of the brake
rotor (8 and/or 9) and is supported by bearings (14,
25 15) which are in each case arranged on the remote side
faces, the side faces facing away from one another, of
the brake housing (11) and of a coil-carrier housing
(4), respectively, for achieving as large a distance
between the bearings as possible.

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2. Drive arrangement according to Claim 1, characterized in that the brake unit (20) is designed as an electromagnetic fail-safe brake (4, 5, 6, 7)
- 5 3. Drive arrangement according to Claim 1 or 2, characterized in that the brake unit (20) is actuated pneumatically or hydraulically.
- 10 4. Drive arrangement according to one of the preceding claims, characterized in that the bearing (14) is larger in diameter than a toothed hub (12) of the brake, and thus shaft (3) and toothed hub (12) are designed in one piece.
- 15 5. Drive arrangement according to one of the preceding claims, characterized in that two or more brake rotors or discs are provided in the brake unit (20).
- 20 6. Drive arrangement according to one of the preceding claims, characterized in that the pinion of the brake unit (20) is formed from felt over part of its axial length for the purposes of lubricating the toothed rack.
- 25 7. Drive arrangement according to Claim 6, characterized in that the shaft (3) of the pinion (2) is formed with a rotary transmission leadthrough at the shaft end face (19) for feeding lubricant to the felt
- 30 of the pinion (2).
8. Drive arrangement according to one of the preceding claims, characterized in that the brake unit (20), for reducing its overall height, i.e. its
- 35 distance from the drive motor (22) provided on the slide (13), is provided with two milled parallel flats (17, Fig. 3).

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